

Comparison of gait parameters between drug-naïve patients with multiple system atrophy with predominant parkinsonism and Parkinson's disease

J.Y. Youn, J-W. Cho, J-S. Kim, B. Na

Neurology, Samsung Medical Center, South Korea

Even though more gait symptoms present from early stage in the patients with multiple system atrophy with predominant parkinsonism (MSA-P) compared to those with Parkinson's disease (PD), the gait patterns of MSA-P were not clearly elucidated yet. We enrolled drug-naïve 34 PD patients and 26 MSA-P patients at the Movement Disorders Clinic, Samsung Medical Center. Parkinsonism was evaluated with Unified Parkinson's disease rating scale (UPDRS) part III and cognition with mini-mental status exam (MMSE). All enrolled subjects underwent DIERS Pedoscan and GAITRite to measure postural instability and gait. We compared the results of posturography and gait analysis between MSA-P and PD patients, and performed correlation analysis with UPDRS part III and MMSE scores. Although there was no difference in demographic and clinical variables between two groups, MSA-P patients showed larger total anterior-posterior and lateral movement of center of pressure (COP) than PD patients. In terms of gait analysis, MSA-P group had slower velocity, decreased step/stride length, and increased base compared with PD patients. In correlation analysis, MMSE score was correlated with step/stride length and single/double support time in PD patients after controlling age, sex, height, body weight, education year, disease duration, and UPDRS part III score. Even from early stage, MSA-P patients demonstrated more involvement of postural instability and gait disturbance compared with PD patients. Particularly, because of more severe postural instability in MSA-P patients, MSA-P patients showed larger movement of COP and wide base during gait than PD patients.